ERRATUM TO “UNIQUENESS AND QUASI-MEASURES ON THE GROUP OF INTEGERS OF A $p$-SERIES FIELD”

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$$|\mu(G)| \leq \varepsilon + Ae$$

is obtained. We then claim that $\mu(G) = 0$ by letting $\varepsilon \to 0$. However, $A$ depends upon a certain point $\bar{x}_0$, obtained by intersecting a sequence of sets which were chosen with respect to the given $\varepsilon > 0$. In particular, $A$ is a function of $\varepsilon$ and we cannot be sure that $A\varepsilon \to 0$ as $\varepsilon \to 0$.

This error was pointed out by Bruce Aubertin, a student of J. Coury and J. Fournier of the University of British Columbia. He also suggests the following patch.

Inequality (12) gave up too much too soon. Indeed, the choice of $\varepsilon_j$’s leads us to a stronger inequality

$$(12.5) \quad |\mu(G)| \leq \varepsilon(1 - 2^{-j}) + \varepsilon'p^{N_1 + \cdots + N_j}|\mu(I(k_j, N_1 + \cdots + N_j))|.$$  

Proceeding with the choice of $\bar{x}_0$ as before, and using (7) with (12.5) we obtain

$$|\mu(G)| \leq \varepsilon + \varepsilon'|S_{p^{N_1 + \cdots + N_j}}(\bar{x}_0)|.$$  

Hence the estimate at the bottom of p. 205 becomes

$$|\mu(G)| \leq \varepsilon + \varepsilon'A.$$  

Now let $j \to \infty$ and $\varepsilon \to 0$ to conclude that $\mu(G) = 0$, as required.

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